With that said, by publishing our experience we are not advocating endovascular treatment of all spontaneous dissections. We clearly wrote that this approach is indicated "when medical therapy is insufficient or inappropriate." However, in selected patients with ongoing symptoms despite medical therapy or those who present with an acute stroke, endovascular therapy should be considered. Endovascular therapy carries risk, of course, but Drs. Norris and Menon overemphasize the importance of a slight iatrogenic intimal tear, which was the only procedural complication in our series and which healed spontaneously. In regard to their statement about the risk of reperfusion/hyperperfusion hemorrhage after revascularization, we could not agree more, and to prevent such an event, it is important to preserve as much viable brain tissue as possible and to control arterial hypertension. Our patient who had an intracerebral hemorrhage 13 days after stenting of both internal carotid artery dissections had presented in a coma from bilateral, severely flow-limiting, internal carotid artery dissections. In this patient we believed that the risk of an intracerebral hemorrhage after stenting was acceptable given the almost certain mortality from acute bilateral internal carotid artery occlusions, which is not a "benign lesion," as Drs. Norris and Menon suggest.

In summary, we agree with the sentiment of the comments offered by Drs. Norris and Menon, but we believe that each patient with cerebral ischemia should be evaluated as an individual and that treatment decisions should be made with the unique needs of each patient taken into account. Sometimes this can mean an endovascular approach even when medicine is the traditional therapy.

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Regarding "Long-term results of carotid stenting are competitive with surgery"

The article by Bergeron et al[1] on the "Long-term results of carotid stenting are competitive with surgery" concludes that the results of stenting are competitive with carotid endarterectomy. The study evaluated 221 carotid stents in 193 patients. After inspection of the data in Table I, the sum of the totals for *Complications* of the individual risk factors, lesion factor, and technical factors plus the total for *No complication* of the same individual risk factor, lesion factor, and technical factors are >221 stents. Similarly, in Tables III and IV, the sum of the total for lesion factors for *In-stent restenosis* plus the total for *Free from in-stent restenosis* is >221 stents; this is also apparent for the sum of the totals for technical factors. Since the higher than expected totals are the "global number of patients," can the authors define *global number*?

Carotid endarterectomy can be achieved with low perioperative complications and is the gold standard for stenting. The 5-, 10-, and 15-year restenosis-free rates and stroke-free rates with the vein-patch are 91%, 87% and 79%, and 97%, 94% and 93%, respectively.[2] The long-term benefit of carotid artery stenting is an important issue, and an explanation for the increased total number in the data that was used to obtain their conclusion will help to weigh the importance of this paper to determine which procedure would most benefit a patient.

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Reply

We first intended to publish our experience in endovascular procedures in carotid arteries, including stenting and balloon angioplasty in stenoses and aneurysms. After we performed the first Fisher exact test on this larger cohort, we decided to refine our results and focus on carotid stenting only for stenotic carotid diseases. Thus, we withdrew sole balloon angioplasty and carotid artery aneurysms from the cohort, and the period of the study was retrospectively extended to September 2003. Unfortunately, the statistician who performed the initial Fisher's test died soon after, and we decided to submit the final manuscript without repeating the Fisher test on the newly defined cohort that was reported in the manuscript.

We have subsequently performed a Fisher exact test on the cohort that we described in our *Methods* section (ie, without carotid aneurysms and without sole balloon angioplasty). Of the seven factors that were found to be independently associated with neurologic complications after all carotid endovascular interventions, only two have remained statistically significant predictors with similar *P* values: preoperative renal insufficiency and age >70 years. The use of the femoral access rather than the direct cervical puncture showed a fivefold increase in the neurologic complications rate that was not statistically significant. As for predictors of in-stent restenosis, the Fisher exact test on this cohort did not demonstrate any predicting factor.

On behalf of all my coworkers and coauthors, I thank Dr Chang for reviewing our results so cautiously and for pointing out the dataset shifting between the two cohorts we described in our *Methods* and *Results* sections. Although this error only affected the results of the Fisher exact test, it has been useful to redo the tests and confirm that preoperative renal insufficiency and age >70 years are indeed independent predictors of neurologic complications after carotid stenting. This has also resulted in an erratum published in this issue of the Journal of Vascular Surgery.

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doi:10.1016/j.jvs.2006.01.003